

CLAIMS

1. A semiconductor assembly comprising:
  - a die having a substrate;
  - a mass suspended over the substrate with anchors, and movable along a first direction, the movable mass having one or more fingers extending along a second direction perpendicular to the first direction; stationary plates, wherein movement of the movable fingers relative to the stationary plates cause a change in capacitance that is used to measure acceleration; and
  - a cap bonded to the die, the cap surrounding the mass, the mass and the cap defining a space therebetween so that the cap does not contact the mass.
2. The assembly of claim 1, wherein the cap is hermetically bonded to the die.
3. The assembly of claim 1, wherein the cap includes silicon.
4. The assembly of claim 3, wherein the cap is bonded to the die with a glass seal.
5. The assembly of claim 1, wherein the cap includes a metal paddle.
6. The assembly of claim 1, wherein the cap is bonded to the die with a glass seal.
7. The assembly of claim 1, wherein the cap is bonded to the die with a metal seal.
8. The assembly of claim 1, wherein the die is an integrated circuit die that has an integrated circuit in addition to the movable member.

9. The assembly of claim 1, wherein the movable member moves laterally in a plane parallel to the substrate.

10. The assembly of claim 1, wherein the cap covers some, but not all, of the face of the die.

11. The assembly of claim 1, wherein the cap is bonded to the die with an adhesive, wherein the pattern of the adhesive is chamfered at the corners of the cap.